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April 14, 1989

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VIA TELECOPY

Ms. Irene North
 Group Leader, Solid Waste Group
 Division of Solid and Hazardous
 Waste Management
 OHIO ENVIRONMENTAL PROTECTION AGENCY
 1035 Devluc Grove Drive
 Bowling Green, Ohio 43402

Re: Additional Information Requested Regarding
 Magnimet Shredder "Fluff"

Dear Ms. North:

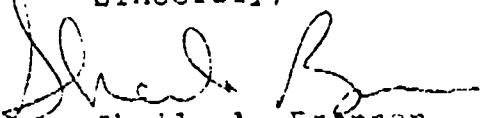
I am an in-house attorney for Magnimet Corporation, a subsidiary of North Star Steel, which is a Cargill subsidiary. Magnimet, through its consultant Bob Kadwell, has been in contact with you regarding a request for a letter authorizing Magnimet to landfill their shredder fluff. I have assumed responsibility for responding in this matter, and would appreciate if you would direct all questions and correspondence to me.

I have attached information regarding the statistical procedures utilized to determine the confidence intervals for lead, cadmium and PCB's from the data already submitted to you. I trust that this information satisfies your request for information.

Ms. Irene North
April 14, 1989
Page 2

Your earliest response is appreciated.

Sincerely,


Sheila A. Brennan

SAB:skS
Enclosure(s)
cil/1597

cc: Jim Donothan/Magnimet/Toledo, OH
Bob Evans/NSS/51

Bob Kadwell
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Minneapolis, MN 55405

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Tellus Consultants, Inc.

Robert Kueker, P.E., CFM

April 6, 1989

Ms. Irene North
Group Leader, Solid Waste Group
Division of Solid and Hazardous
Waste Management
OHIO ENVIRONMENTAL PROTECTION AGENCY
1035 Devleac Grove Drive
Bowling Green, Ohio 43402

VIA FEDERAL EXPRESS
AND FAX

Re: Additional Information Requested Regarding Magnimet
Shredder "Fluff".

Dear Ms. North:

The purpose of this letter is to respond to your request for additional information regarding the above-referenced material which Magnimet, Inc., Toledo, Ohio generates. During our March 31, 1989, telephone conversation you requested five items of additional information. These are listed below:

1. A copy of all analytical data used in the statistical analysis.
2. A description of the systematic random sampling procedure used by Tellus Consultants.
3. A description of how the continuous daily samples have been taken.
4. Was the shredder "fluff" generated daily combined or separate.
5. How will we demonstrate on an ongoing basis that the shredder "fluff" continues to be a non-hazardous waste.

The attached information responds to each of these concerns.

Table 1 in the attached information includes revised statistical results for lead and cadmium. The original data was calculated without utilizing statistical outliers in accordance with our previous interpretation of SW 846. Upon consulting the US EPA to verify our sampling procedures they stated that the statistical results should include all outliers. It is on this basis that we revised the calculations to include the previously excluded outliers.

Ms. Irene North
April 6, 1989
Page Two

If you have any questions regarding this letter or the attached information, please do not hesitate to contact me at our office.

Sincerely,

TELLUS CONSULTANTS, INC.

Robert J Kadwell

Robert J. Kadwell, P.E., C.P.G.

RJK:kkv
Enc.

cc: Ms. Susan Buchanan, Ohio EPA (w/enc.)
Ms. Nancy Moore, Ohio EPA (w/enc.)
Ms. Linda Welch, Ohio EPA (w/enc.)
Mr. Jim Donithan, Magnimet Incorporated (w/enc.)
Mr. Steve Fischer, Magnimet Incorporated (w/enc.)

ADDITIONAL INFORMATION REQUESTED
BY OHIO EPA MARCH 31, 1989

Introduction

Magnimet, Incorporated, Toledo, Ohio is a scrap recycler primarily producing "frag" for the steel industry which makes new steel from the scrap metal. Magnimet produces the "frag" by processing scrap automobiles through a shredder. Three streams are generated and are briefly described below. The first is a ferrous metal stream which goes to the steel mill for processing into new steel; the second is non-ferrous metal stream which is sold to non-ferrous metal processors for recycling; the third is the "fluff" which must be disposed.

The "fluff" consists of the non-metallic residue from shredding the automobiles. This includes carpeting, carpet matting, seat cushions, seat fabric, dashboard plastic, and other non-metallics which the automobiles contain.

Magnimet, Inc. removes all batteries and gas tanks prior to shredding the automobile. Both of these can be potential sources of lead. In addition, Magnimet, Inc. does not shred white goods (i.e. refrigerators, freezers, and other household appliances) since these are a potential source of PCB contamination for the "fluff".

Analytical Results

All of the chemical results for the shredder "fluff" used in the statistical analyses are shown in Table I. These results were analyzed in accordance with the statistical procedures described in SW 846 and summarized in the information previously submitted to you. In addition, we have completed the statistical analysis for the PCB data and that is summarized in the table below.

SUMMARY OF RESULTS
STATISTICAL ANALYSIS
MAGNIMET, TOLEDO

<u>Parameter</u>	<u>Mean</u>	<u>Std. Deviation</u>	<u>N*</u>	<u>Degrees of Freedom</u>	<u>Confidence Interval</u>
PS	4.12	2.34	44	43	3.7-4.6 ppm
CD	.35	.30	44	43	.8-.9 ppm
PCB	1.80	9.25	42	41	0-3.5 ppm

*N = Number of Samples

Systematic Random Sampling Procedure Used by Tellus Consultants

Tellus Consultants used the systematic random sampling procedure to sample shredder "fluff" generated on February 15, 16, and 17, 1999. The specific procedure is described below.

Two Tellus Consultants staff people sampled the above "fluff" piles. We first measured the dimensions of each pile and layed

out a grid approximately ten feet square. We obtained approximately 30-40 pound samples from each grid square, placed them in plastic bags, labeled and removed them from the "fluff" pile. At the time each grid square was sampled, we visually inspected each sample to be sure it was representative of the material contained in the grid square and of the overall material contained in the "fluff" pile.

We used a random number table to determine which samples would be submitted to the laboratory for chemical analysis. We selected five samples from each of the three "fluff" piles for chemical analysis. All of the samples for chemical analysis were quartered using the ASTM quartering procedure. Care was taken to be sure that none of the material from any of the quarters was lost or accidentally discarded. The 30-40 pound samples were quartered to approximately 2-3 pound samples. These samples were submitted to the laboratory for chemical analysis.

Upon receipt at the laboratory, the 2-3 pound samples were quartered again using the ASTM quartering procedure until the appropriate amount for each analysis (EP toxicity and total PCB) were obtained. The quartered aliquots were analyzed using the appropriate procedures described in SW 846.

Continuous Daily Sampling

All samples except those taken by Tellus Consultants (215 thru 217) have been obtained in accordance with the procedure described below. Tellus Consultants staff trained Magnimet, Inc. employees to sample the "fluff" from the conveyor belt as it was discharged during shredder operation. The sampling procedure is described below.

The conveyor belt discharges the "fluff" from the shredder while it is operating at approximately one hour intervals during shredder operation a 2-4 pound sample is obtained and saved. At the end of the days run, all of the hourly samples are combined and thoroughly mixed. This provides a representative composite sample of each days run. The large composite sample is quartered using the ASTM quartering procedure. Through the end of March, two quartered samples were submitted to different analytical laboratories for chemical analysis.

The chemical analyses run included EP toxicity testing for cadmium and lead and total PCB analysis. The results for these analyses are attached.

Status of Daily Generation

The daily material was not combined for sampling and analysis. Each days run was separately sampled and analyzed.

Ongoing Documentation that the Material is Non-Hazardous

Tellus Consultants, Inc. performed the statistical analysis described in SW 846 to characterize the shredder "fluff" generated by Magnimet, Inc. The results of the characterization demonstrated that the "fluff" is non-hazardous. SW 846 states that the waste must be recharacterized when the process or waste stream significantly changes. We do not anticipate any significant changes in either. However, we will perform monthly sampling and analyze for EP toxicity (lead and cadmium) and total PCB to verify that the data is still consistent with that previously obtained.

TABLE 1.
ANALYTICAL RESULTS
MAGNIMET SHREDDER "FLUFF"

<u>Case</u>	<u>S.O.</u>	<u>I.O.</u>	<u>PCB</u>	<u>Fluff Produc- tion Date</u>	<u>LAB</u>
	<u>P.B.</u>	<u>CD</u>			
1	0.7	0.9	20.9	1/26/89	1
2	5.8	1.3	6.0	1/26/89	2
3	11.6	1.5	5.7	2/15/89	1
4	1.7	1.5	15.3	2/15/89	2
5	5.1	1.2	17.9	2/16/89	1
6	7.1	1.1	48.9	2/16/89	2
7	4.4	1.01	4.3	2/17/89	1
8	16.0	1.1	25.2	2/17/89	2
9	2.7	0.9	1.9	2/23/89	1
10	1.5	0.85	<1.0	2/23/89	2
11	4.2	0.7	47.9	2/24/89	1
12	5.4	0.84	<1.0	2/24/89	2
13	2.5	0.7	3.1	2/25/89	1
14	7.9	1.1	<1.0	2/25/89	2
15	1.7	0.7	8.4	2/26/89	1
16	4.7	1.7	<1.0	2/26/89	2
17	0.9	0.8	24.8	2/27/89	1
18	7.8	1.4	<1.0	2/27/89	2
19	8.8	0.7	5.3	2/28/89	1
20	20.0	0.93	<1.0	2/28/89	2
21	4.4	0.72	5.6	3/1/89	2
22	5.1	1.1	21.7	3/2/89	2
23	2.4	0.6	43.9	3/1/89	1
24	3.3	0.9	17.3	3/2/89	1
25	19.0	0.86	0.22	2/15/89	3
26	6.3	0.7	0.24	2/15/89	3
27	3.2	0.89	M	2/15/89	3
28	3.0	0.79	0.06	2/15/89	3
29	2.3	0.41	0.34	2/15/89	3
30	12.0	0.63	1.93	2/15/89	3
31	2.3	0.62	3.3	2/16/89	3
32	5.2	0.50	2.65	2/16/89	3
33	3.2	0.55	0.038	2/15/89	3
34	0.81	0.56	0.298	2/16/89	3
35	3.8	0.62	0.025	2/16/89	3
36	4.6	0.57	M	2/15/89	3
37	5.0	0.49	0.147	2/17/89	3
38	7.1	0.63	0.107	2/17/89	3
39	3.7	0.7	0.03	2/17/89	3
40	8.6	0.51	0.083	2/17/89	3
41	23.0	0.38	0.094	2/17/89	3
42	1.7	0.56	44.0	2/21/89	1
43	2.1	0.66	<1.0	2/21/89	2
44	0.73	0.93	0.0	2/21/89	2